

## **Session Program**

**7-12 Jun 2026**



# **HEAVYMETAL VI: Consortium Meeting Summer 2026**

## ***Talks***

McDonald Forest Hills  
Kinlochard, Aberfoyle, Stirling FK8 3TL, UK

# Monday 8 June

09:00

## Talks: Nucleosynthesis and r-process

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Leo Mulholland

09:00–09:15 **Welcome and opening remarks**

**Speaker**  
Stuart Sim

09:15–09:50 **Neutrinos and nucleosynthesis in binary neutron star mergers**

**Speaker**  
Meng-Ru Wu

09:50–10:25 **Progress in the modelling of nuclear inputs for r-process simulations**

**Speaker**  
Stephane Goriely

10:25

# Tuesday 9 June

09:00

## Talks: Stellar abundances

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Dr Darach Watson

09:00–09:35 **Challenges in observational studies of heavy elements**

**Speaker**  
Camilla Juul Hansen

09:35–10:10 **Lanthanide and actinide variation in metal-poor stars**

**Speaker**  
Alexander Ji

10:10

10:55

## Talks: Kilonovae and Heavy Elements: I

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Quentin Pognan

10:55–11:30 **Identification and Abundance Estimate of Heavy Elements in Kilonova Spectra**

**Speaker**  
Masaomi Tanaka

11:30–12:05 **Late-time kilonova emission and r-process dust formation**

**Speaker**  
Kenta Hotokezaka

12:05–12:25 **Nebular Emission Lines of Lanthanides and Actinides**

**Speaker**  
Andreas Flörs

12:25

14:00

## Talks: Kilonovae and Heavy Elements: II

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK

14:00–14:35 **Observational signatures of kilonovae arising from neutron star mergers with a magnetar remnant**

**Speaker**  
Quentin Pognan

14:35–15:10 **Direct detection of interstellar radionuclides - messengers of heavy element nucleosynthesis and recent nearby cosmic explosions**

**Speaker**  
Anton Wallner

15:10–15:30 **Strontium vs. helium: Atomic data and microphysics decode the 1 $\mu$ m feature in the kilonova AT2017gfo**

15:30

**Speaker**  
Aayush Arya

## Wednesday 10 June

09:00

### Talks: Kilonova NLTE modelling

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Andreas Flörs

09:00–09:35 **NLTE Modeling of Kilonovae**

**Speaker**

Christopher Fontes

09:35–09:55

**Nebular emission lines in kilonovae spectra - insights from atomic calculations**

**Speaker**

Leo Mulholland

09:55–10:15

**The Effect of Ionisation in Collisional Radiative Modelling**

**Speaker**

Michael McCann

10:15

11:00

### Talks: Atomic Structure and Collision Rate Calculations

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Christopher Fontes

11:00–11:35

**Thermal and Non-Thermal Ionization Properties of Te and Sr Ions**

**Speaker**

Steven Bromley

11:35–11:55

**Dirac R-matrix electron impact excitation of Mo I-IV**

**Speaker**

John Henry

11:55–12:15

**Theoretical and experimental study of 4f-5d Fano resonances in EUV photoabsorption of gold**

**Speaker**

David McKeagney

12:15

## Thursday 11 June

09:00

### Talks: Atomic Spectroscopy Experiments

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Emma Sokell

09:00–09:35

#### Spectroscopy of Highly Charged Heavy Ions with an Electron Beam Ion Trap

**Speaker**

Amy Gall

09:35–10:10

#### An overview of dielectronic recombination and a summary of Auburn University experimental facilities

**Speaker**

Stuart Loch

10:10–10:30

#### Dual-Comb Spectroscopy of Heavy Metals

**Speaker**

Hope Dannar

10:30

11:15

### Talks: Atomic Spectroscopy Experiments

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** David McKeagney

11:15–11:50

#### Unlocking the Lanthanides: High-Accuracy Atomic Data at Imperial

**Speaker**

Christian Clear

11:50–12:10

#### Jets in the lab: radiation-hydrodynamic simulations of laboratory-scaled plasma flows

**Speaker**

Ylvia Gerritsma

12:10–12:30

#### Punch Out Plasmas

**Speaker**

Éanna Donohoe

12:30

14:00

### Talks: Atomic Spectroscopy Experiments

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Padraig Dunne

14:00–14:35

#### Many-body quantum chaos & lanthanide ions - what does it mean for NSM ejecta?

**Speaker**

John Sheil

14:35–14:55

#### Challenges in MIR Spectroscopy of Laser-Produced Plasmas: Insights from Water Absorption Measurements

**Speaker**

Chandan Bagadia

14:55-15:05

**Progress in Vis-NIR Spectroscopy**

**Speaker**

Eoin Fagan

15:05

## Friday 12 June

09:00

### Talks: Observations of Heavy Elements in the Cosmos

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Albert Sneppen

09:00–09:35

#### Observing the R-process With Gamma-ray Bursts

**Speaker**

Jillian Rastinejad

09:35–10:10

#### Element observations in a moving Universe: from the Milky Way to DLAs

**Speaker**

Andreas Koch-Hansen

10:10

10:55

### Talks: Radiative Transfer

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Convener:** Catherine Ramsbottom

10:55–11:15

#### Multi-dimensional kilonova radiative transfer with ARTIS

**Speaker**

Stuart Sim

11:15–11:35

#### TBD

**Speaker**

Rasmus Damgaard

11:35

11:35

### Talks: Summary & Concluding Remarks

**Session** | **Location:** McDonald Forest Hills, Kinlochard, Aberfoyle, Stirling FK8 3TL, UK | **Conveners:** Andreas Bauswein, Aayush Arya

11:35–12:30

#### Conference Summary & Concluding Remarks

**Speakers**

Aayush Arya, Andreas Bauswein

12:30